such as "You mean to say, doctor, that you think this test might help my child, but it's against the law even if I want to pay for it out of my own pocket."[7] Locally agreed protocols are more likely to be effective, but as Dr Jenkins points out these may be based on anecdotal evidence and personal experience.

Apart from difficulties in drawing up protocols, other problems with protocols which will need to be addressed are their implementation (perhaps information technology will fulfill its promise in this respect), the long term assessment of their effectiveness, monitoring adherence, and the continuous medical effort that will be required to update them. Under whose responsibility will these fall?

ROUSSEAU GAMA
STEPHEN FEATHERSTONE

Department of Chemical Pathology,
Epsom General Hospital,
Epsom,
Surrey KT18 7EG

1 Jenkins D. Investigations: how to get from guidelines to protocols. *BMJ* 1991;**303**:323-4. (10 August.)
2 Epstein AM, Hartley RM, Charlton JR, Harris CM, Jarman B, McNeil BJ. A comparison of ambulatory test ordering for hypertensive patients in the United States and England. *JAMA* 1984;**252**:1723-6.
3 Fraser CG, Woodfoard FP. Strategies to modify the test-requesting pattern of clinicians. *Ann Clin Biochem* 1987;**24**: 223-31.
4 Sandler G. Costs of unnecessary tests. *BMJ* 1979;**249**:3018-9.
5 White AJ, Baraclough B. Benefits and problems of routine laboratory investigations in adult psychiatric admissions. *Br J Psychiatr* 1989;**155**:65-72.
6 Benson ES. The responsible use of the clinical laboratory. *Clin Biochem* 1986;**19**:262-70.
7 Fowkes FGR, Hall R, Jones JH, Scanlon MF, Elder GH, Hobbs DR, *et al*. Trial of strategy for reducing the use of laboratory tests. *BMJ* 1986;**292**:883-5.
8 Greenberg DS. Cost containment: another crusade begins. *N Engl J Med* 1977;**296**:699-700.

Childhood diabetes and material deprivation

SIR,—Mr Y J Crow and colleagues reported that the incidence of diabetes mellitus in children was higher in the deprived areas of northern England.[1] We have examined the relation between incidence and deprivation in Scotland (1977-83) using a measure developed by Carstairs and Morris[2] and taking account of urban-rural differences in incidence.[3,4] Our results will be published elsewhere,[5] but we have reanalysed the data to present them in the same format as table II in the paper by Crow and colleagues.

Our results are contrary to the findings of the Newcastle team—the incidence of diabetes in Scottish children has decreased in the most deprived areas. However, this finding was confined to the urban areas, and there was little relation with deprivation in rural areas. One explanation which we have postulated is that Carstairs and Morris's score underestimates deprivation in rural areas.[5]

There were only minor methodological differences between the studies. The deprivation score we used has three factors in common with the Townsend index (unemployment, car ownership, and overcrowding) but the fourth factor in Carstairs and Morris's score is low social class, whereas Townsend's fourth factor is home ownership. We used postcode sector as the geographical unit whereas Mr Crow and colleagues used enumeration district. It is unlikely that these differences can explain the contrasting findings. Both studies were large, and both have validated the completeness of ascertainment.

It would be useful if Mr Crow and colleagues could assign urban or rural codes to each enumeration district to see if the relation with deprivation was consistent in urban and rural areas.

Other studies that have examined the relation between incidence and social class have produced conflicting results. One small British study supported the findings in Scotland, but another produced equivocal results.[6,7] A recent Swedish study reported findings in keeping with those of the Newcastle group.[8]

C C PATTERSON

Queen's University,
Belfast BT12 6BJ

N R WAUGH

Tayside Health Board,
Dundee DD1 9NL

1 Crow YJ, Alberti KGMM, Parkin JM. Insulin dependent diabetes in childhood and material deprivation in northern England, 1977-86. *BMJ* 1991;**303**:158-60. (20 July.)
2 Carstairs V, Morris R. Deprivation and mortality: an alternative to social class? *Community Medicine* 1989;**11**:210-9.
3 Waugh NR. Insulin-dependent diabetes in a Scottish region: incidence and urban/rural differences. *J Epidemiol Community Health* 1986;**40**:240-333.
4 Patterson CC, Smith PG, Webb J, Heasman MA, Mann JI. Geographical variation in the incidence of diabetes mellitus in Scottish children during the period 1977-1983. *Diabetic Med* 1988;5:160-5.
5 Patterson CC, Waugh NR. Urban/rural and deprivational differences in incidence and clustering of childhood diabetes in Scotland. *Int J Epidemiol* (in press).
6 Debono J, Johnson C, Betts P. Juvenile diabetes and social class. *Lancet* 1983;i:1113-4.
7 Tarn AC, Gorsuch AN, Spencer KM, Bottazzo GF, Lister J. Diabetes and social class. *Lancet* 1983;ii:631-2.
8 Blom L, Dahlquist G, Nyström L, Sandström L, Wall S. The Swedish childhood diabetes study—social and perinatal determinants for diabetes in childhood. *Diabetologia* 1989;**32**: 7-13.

Deprivation indices

SIR,—There has been much discussion recently on the relative merits of different deprivation indices. Three such indices—the underprivileged area score,[1] the Townsend index,[2] and the Carstairs index[3]—are similar in that they are all based on a combination of several socioeconomic variables, taken from the 1981 census, which are (variously) standardised and transformed and weighted. The underprivileged area score was developed as a measure of the potential workload or pressure on the services of general practitioners; the Townsend and Carstairs indices were developed as measures of material deprivation. The Townsend and Carstairs indices each include four variables related to material deprivation; the underprivileged area score includes similar variables plus four others (elderly living alone, single parent families, mobility, and ethnic groups) that general practitioners, in a national survey, thought were also relevant to their workload or pressure on their services.

The Townsend and Carstairs indices seem to correlate more strongly with standardised mortality ratios than the underprivileged area score,[4] which correlates more strongly with infant mortality.[5] For the electoral wards of England and Wales all three indices intercorrelate strongly (correlation coefficients of about 0·85): about three quarters of wards that are more than one standard deviation above the mean of the underprivileged area score and the Townsend index are common to both indices.

We consider it to be important that areas of deprivation and of increased workload or pressure on the services of general practitioners should be identified to help concentrate limited resources for health (and other) services in these areas. That is why we are concerned to point to the common conclusions that emerge from the use of all three indices. As statisticians are never likely to agree among themselves on the structure and derivation of the perfect index endless discussion of the differences among the indices is unlikely to be productive. These measures may be refined further when additional data become available on a uniform basis. In the mean time more effort should be put into using the indices for the purposes for which they were developed and less into dissecting out the fairly small differences among them.

BRIAN JARMAN

Department of General Practice,
St Mary's Hospital Medical School,
Lisson Grove Health Centre,
London NW8 8EG

PETER TOWNSEND

Department of Social Policy,
University of Bristol,
Bristol BS8 1TH

VERA CARSTAIRS

Health Services Research,
University of Edinburgh,
Edinburgh EH8 9LW

1 Jarman B. Identification of underprivileged areas. *BMJ* 1983; **286**:1705-9.
2 Townsend P, Phillimore P, Beattie A. *Inequalities in health in the Northern region*. Newcastle upon Tyne: Northern Regional Health Authority and University of Bristol, 1986.
3 Carstairs V, Morris R. Deprivation: explaining differences in mortality between Scotland and England and Wales. *BMJ* 1989;**299**:886-9.
4 Carstairs V, Morris R. Deprivation and health. *BMJ* 1989;**299**: 1462.
5 Jarman B. *Social deprivation and health service funding*. London: Imperial College, 1990. (Papers in science, technology, and medicine No 22.)

Age and sex standardised incidence of childhood diabetes in Scotland (1977-83) by categories of deprivation index

Category	Population aged under 19 (000)		No of cases		Incidence per 100 000 (95% confidence interval)
	Boys	Girls	Boys	Girls	
1 (most deprived)	122·3	117·9	139	129	15·8 (13·9 to 17·7)
2	122·0	116·9	159	141	17·9 (15·8 to 19·9)
3	123·0	118·2	202	173	22·2 (20·0 to 24·5)
4	122·1	115·1	199	199	24·0 (21·7 to 26·4)
5	123·5	116·8	220	173	23·4 (21·1 to 25·8)
6 (least developed)	123·2	116·9	203	188	23·3 (21·0 to 25·6)

Psychological therapy in the NHS

SIR,—The issue of who should provide psychotherapy or counselling in its various forms[1] is less urgent at present than the issue of who should provide the resources for it.

Training in communication skills, which would include counselling, should be part of the training of every doctor because such skills are an essential element of everyday practice. That is a long step from suggesting that doctors should be the main providers of counselling.

The behavioural psychotherapies have been developed as clinical interventions largely by doctors, but, regrettably, most practitioners have little or no training in them. There is a powerful argument for ensuring that all doctors have some education in behavioural methods and that some, such as general practitioners and psychiatrists, have more specific training. Again, this does not imply that doctors should be the main providers.

The dynamic psychotherapies have always been practised by a small minority of practitioners, and it would be unreasonable to expect more people to provide them even if the evidence of efficacy was more persuasive. Cognitive therapy, which some regard as common sense enriched by behavioural method, is of proved value. Other talking therapies are perceived by many as effective and helpful. Knowledge of some or all of these techniques is of value to medical practitioners if for no other reason than that it increases their understanding of themselves and of the people with whom they work.